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ABSTRACT

This symposium introduction outlines the first phase of an investigation of the mother-father-infant triad as an interactive system, influencing both parent attitudes and behaviors and child development. The focus of the research was on the early determinants of parental behavior. Subjects were 67 middle class, white parents and their first-born infants. Data were gathered during the prenatal, perinantal, and neonatal periods. Seven phases of data collection are described briefly, and the four papers to be presented from the study are previewed. The papers focus on: (1) the interactive system of the pregnant couple, (2) the relationships between the mother's adaptation to pregnancy and the labor and delivery experience, (3) the relationships between the infant's neonatal characteristics and the mother's self-image, and (4) the parent-offspring interaction in other species. (SDH)

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Parents and Infants: An Interactive Network

I. Introduction

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Parents and Infants: An Interactive Network

I. Introduction

Leon J. Yarrow

Until very recently much of our research on early development has been based on a very simple model, that of the environment acting on the child. We have studied the influence of parents on the child's personality and intellectual development, but we have not looked at the mother-father-infant triad as an interactive system, each influencing the other. We know that there is a wide range of individual differences among infants at birth. There is similar variation in parental characteristics, in activity level, in frustration tolerance, in ability to accept dependency demands. Recent research has increasingly documented congenital differences in infants. They not only differ in sensitivity to auditory, visual and tactile stimuli, but in their capacity to buffer stress, in how easily they are upset and how readily they are soothed. There are also differences in general alertness, in responsiveness to people and relative orientation to people and inanimate objects. It is likely that these differences mediate the impact of the environment; they also influence how parents feel about and how they handle their young infants. The infant's stimulus value and the kinds of responses he elicits from others probably varies with how active and demanding he is, how quiet and placid, stubborn or malleable, and how irritable he is.

Although there is growing dissatisfaction with the inadequacy of the unidirectional view of the mother acting on the infant, there have

been difficulties in designing research which adequately handles the complexity of reciprocal interactions between parents and infants. There have been many designs for studying this problem, ranging from natural experiments, in which the mother's behavior with blind or motorically handicapped infants is studied, to very careful analyses of contemporaneous contingent interactions using sequential analyses or contingency codes. Each of these designs reflect somewhat different conceptualizations of the problem.

The papers to be presented on this symposium are reports of the first phase of an investigation carried out in the Social and Behavioral Sciences Branch of the National Institute of Child Health and Human Development. The basic design was to study the influence of neonatal infant temperamental characteristics on maternal behavior. As you will see, this apparently simple design had many ramifications. In this study a great deal of data were obtained on many issues. We plan to discuss only a small part of these data today. We shall present data from one stage of the study--the prenatal, perinatal and neonatal periods. Essentially we shall focus on the early determinants of parental behavior. One of the problems in studying infant effects is to disentangle the various determinants of parental behavior.... to distinguish the contribution of parental personalities, how their experiences during pregnancy, during labor and delivery influence their handling of the infant, and to understand how the basic feelings between husband and wife affect their behaviors with their offspring. On the level, we are trying to disentangle and distinguish the separate

contributions of these variables; on another level we are trying to understand how these many variables interact and become part of a dynamic system.

The sample of 67 middle class white parents and their first-born infants were recruited from the Naval Medical Center in Bethesda and from private obstetricians. Only normal infants, free from complications of pregnancy, labor and delivery were included in the sample. The fathers' ages ranged from 20 to 42; the mothers from 18 to 36. All but one of the fathers had completed high school. Most had graduated from college and many from professional school. All the mothers were high school graduates, their education ranged from two to six years of college. Almost half of the sample of mothers and fathers had attended Lamaze classes in natural childbirth.

There were 7 phases of data collection in the study.

1. Prenatal interviews were conducted during the eighth month of pregnancy with the prospective parents regarding their experiences and their general adaptation to the pregnancy, their expectations and feelings about the unborn child, and their relationship with each other. Husband and wife were interviewed separately.

2. At three days the infants were examined in the hospital nursery with the Brazelton Neonatal Assessment Scale. The purpose of this assessment was to identify some characteristics of the neonate that were independent of the mother's influence, but which might have an influence on the mother's behavior towards the infant. This scale identifies such characteristics as visual alertness, responsiveness to inanimate visual

and auditory stimuli, such aspects of social awareness as responsiveness to a human face and voice; habituation to stimuli; irritability and consolability.

3. At 4 weeks the infants were tested again with the Brazelton Scale.

4. At 4 weeks another staff member went into the home on 2 days and made one-hour time-sampling observations of the mother-infant interaction. He observed the mother's direct stimulation of the infant, distinguishing the different modalities with which she interacted with him: tactile, kinesthetic, visual, auditory. The observer noted whether these behaviors were spontaneous, whether they were initiated by the mother, or whether they were in response to a signal from the infant. He recorded the mother's mediation of inanimate objects. He also made a series of ratings on more qualitative aspects of the mother-infant interaction, such as the degree of physical involvement and closeness.

5. There was an interview by another staff member with the mother at 4 weeks which focused on the mother's feelings about herself, about the infant, and her relationship to her husband.

6. At this time, at 4 weeks, there was also an interview with the father about his relationship with the infant and about some aspects of the husband-wife relationship.

7. Finally, at 5 weeks another observation was made in the home, this time focusing on the father's interactions with the infant, using an adaptation of the codes from the mother-infant interaction scale.

In the four papers today, we shall not discuss all these data and their interdependencies. The focus of these papers is on the determinants

of parental behavior and feelings towards the infant. Parent's behavior toward their children is influenced in part by their experiences in growing up, the models provided by their parents. In part, their behavior towards a young child is determined by their basic tempermental characteristics which in interaction with their life experiences determine their ways of interacting with other people. Differences in such characteristics as the ease with which they express feelings, their ability to empathize with other human beings, their flexibility in adapting to changing demands and their ability to tolerate the dependent needs of others are some of the personality contexts in which parental behavior is embedded.

It is also likely that experiences during pregnancy lay the groundwork for the parent-infant interaction. The physiological changes in the mother during pregnancy are accompanied by psychological changes. The symbiotic relationship between the pregnant woman and her unborn child undoubtedly influences her concept of herself. This is especially true of the primiparous woman, her conception of her role changes from a relatively independent person to a highly interdependent one, from a wife and worker to a caregiver. Psychological changes also occur in the prospective father.

In addition, other experiences during pregnancy, the mother's physical well-being, the balance of her euphoric and depressed moods, also color her perceptions of her child. It seems clear, that how she copes with the demands of pregnancy and how she handles the delivery experience are closely tied to her temperament and personality. In

this sense, there is a dynamic interaction between her life experiences and her experiences during pregnancy. Similarly, the husband's feelings about himself, his expectations of the unborn infant, his basic feelings towards his wife and the support he is able to give her during this period set the stage for the early parent-infant interaction.

These are some of the issues with which we shall deal in this series of papers.

In some ways the answers to many of these questions, appear self-evident. Why, then do we need to study these issues. We hope to go beyond the facile level of generalization that these many factors have effects. We need to try to deepen our understanding of the dynamic interactional process, to understand the resultant behaviors that emerge from the complex network of interactions between the parents' early experiences, their adaptations to pregnancy, labor and delivery, their sensitivities, strengths and vulnerabilities---and the infant and his individualized characteristics.

1. The first paper by Dr. Bradley Soule will examine the interactive system of the pregnant couple, the mother's and father's feelings about the pregnancy experience and expectations about the infant; their similarities and differences and their mutual influences on each other. These are the basic data from which we assess their pre-parental personalities.

2. The second paper by Dr. Kay Standley considers the relations between some of the prenatal data, more specifically the mother's adaptation to pregnancy and the labor and delivery experience, with particular interest in the amount of anesthesia and analgesia received

during labor and the delivery. Then Dr. Standley will present data on the relations between analgesia and anesthesia and the infant's neonatal characteristics.

3. The third paper by Dr. Michael Duchowny deals with the relations between the infant's neonatal characteristics and the mother's self-image, how she sees herself when the infant is 4 weeks of age.

4. The fourth paper to be presented by Dr. Stuart Copans takes a comparative view of parent-offspring interaction, looking at these interactions in other species and their implications for studying human parents and infants.